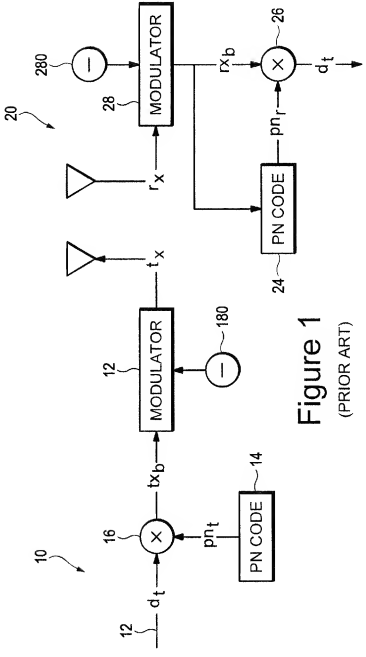


Figure 1
(PRIOR ART)

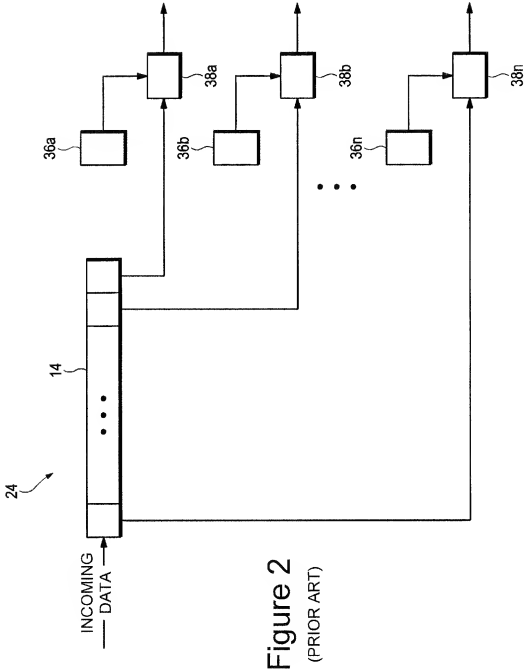


Figure 2
(PRIOR ART)

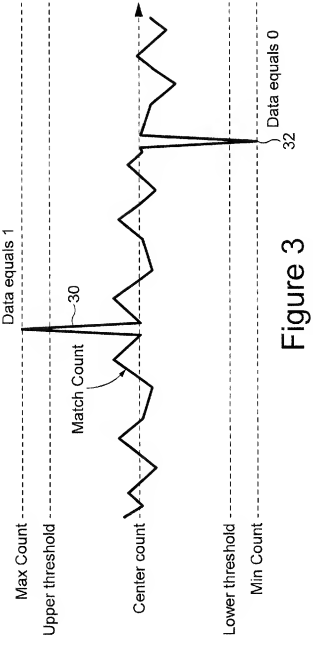


Figure 3
(PRIOR ART)

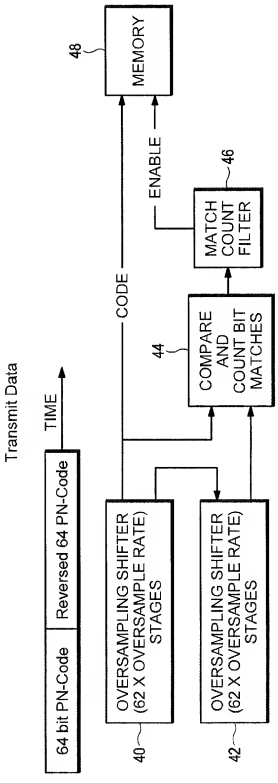

Transmit Data
TIME
64 bit PN-Code
Reversed 64 PN-Code
OVERSAMPLING SHIFTER (62 X OVERSAMPLE RATE) STAGES
40
OVERSAMPLING SHIFTER (62 X OVERSAMPLE RATE) STAGES
42
CODE
44
COMPARE AND COUNT BIT MATCHES
MATCH COUNT FILTER
46
ENABLE
48
MEMORY

Figure 4

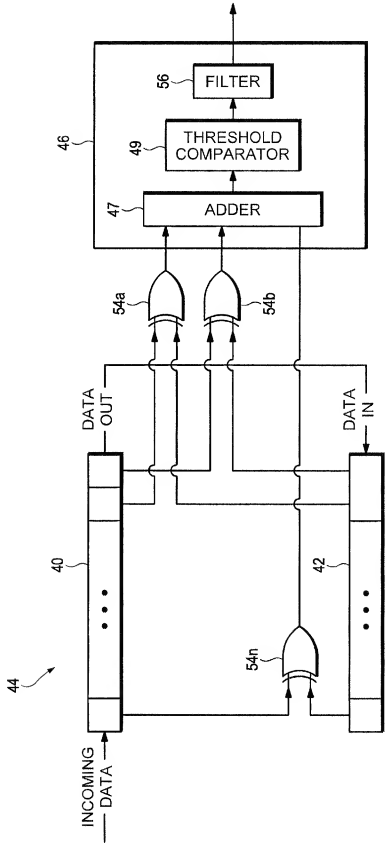

FILTER
56
THRESHOLD COMPARATOR
49
ADDER
47
46
54a
54b
DATA OUT
DATA IN
40
42
54n
44
INCOMING DATA

Figure 5

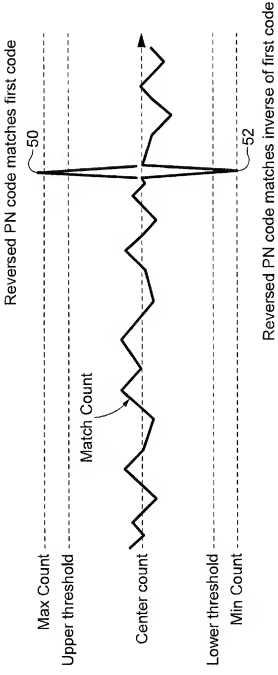

Reversed PN code matches first code
50
Max Count
Upper threshold
Match Count
Center count
Lower threshold
Min Count
52
Reversed PN code matches inverse of first code

Figure 6

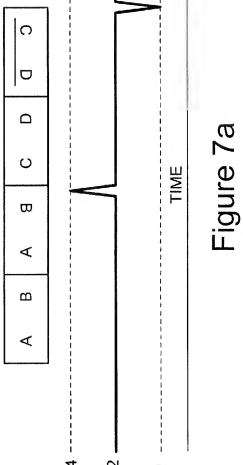


Figure 7a

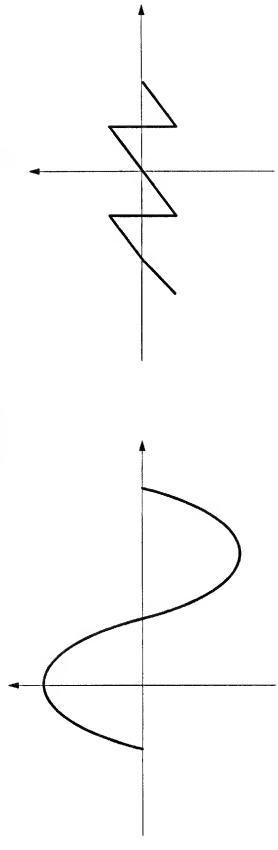
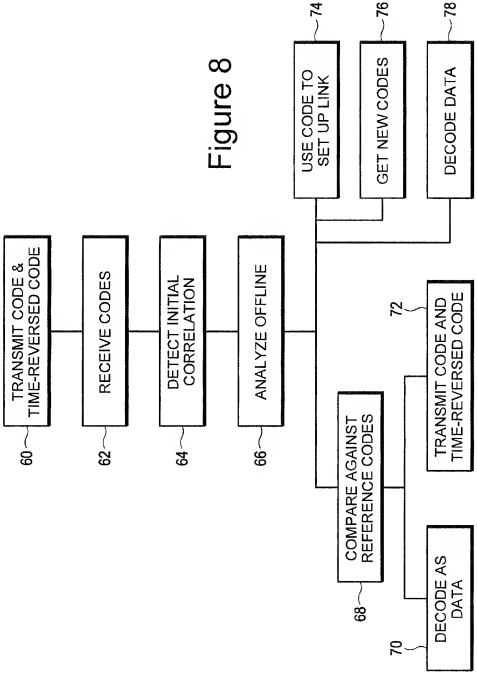


Figure 7b

Figure 7c

Figure 8


TRANSMIT CODE & TIME-REVERSED CODE
60
RECEIVE CODES
62
DETECT INITIAL CORRELATION
64
ANALYZE OFFLINE
66
COMPARE AGAINST REFERENCE CODES
68
DECODE AS DATA
70
TRANSMIT CODE AND TIME-REVERSED CODE
72
USE CODE TO SET UP LINK
74
GET NEW CODES
76
DECODE DATA
78